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AQUARIUM ~ ORNAMENTAL
FISHES AND ACCESSORIES
WATER LILIES AND OTHER AQUATIC PLANTS

Buskirk's Independence Nurseries

INDEPENDENCE

OHIO

WHOLESALE

1932

A Page Worth Reading



THAS been our aim this year, as in the past, to make our Catalogue a booklet of information to all who are interested in fancy fish and aquatic plants. Therefore, the descriptions have been enlarged and several new species and varieties added to all departments.

The Fish Department, under the direction of Mr. Dietz, is an important section of our business. Both Mr. Buskirk and Mr. Dietz will be glad to advise you about the proper care of fish, about building and maintaining pools, and achieving success with fish and flowers.

The Waterlily section presents several changes from former seasons. New varieties come into the trade, and, after testing in our ponds, are included in our list, provided they meet our standards of quality. Several additions will also be noted in the Aquatic Plant division, and we have endeavored, with the aid of new drawings, to show the form of such plants. Therefore, we hope the changes and improvements will appeal to you—and impel you to send to us your orders for Waterlilies, Plants, and Fish.

PRICES are all net and not subject to discount.

TERMS are cash, unless special arrangements are made. Orders from unknown correspondents without satisfactory commercial rating should be accompanied by a remittance to cover the order.

OUR GUARANTEE. We guarantee our stock to be in good condition when it is packed; should there be any question about this on arrival, the goods are to be returned at once for our inspection.

We will have large specimen plants of many varieties of Waterlilies growing in pails or large containers, priced according to size and variety. They can be planted successfully all summer, and will give immediate effect.

Please address all communications to

Buskirk's Independence Nurseries

INDEPENDENCE, OHIO

Visitors are welcome at all times. You will find recreation and pleasure in studying the Waterlilies, the Fancy Fish, the Swans, the Pheasants, and other interesting nature subjects.

The Aquarium

By G. W. DIETZ, Aquarist

AN EXTREMELY fascinating living picture. When you enter the living-room on a dark, dull, winter morning, at the window is a beautiful bit of nature. The soft light from the electric globe, shimmering through the aquatic plants, reveals activity and life. The scene pleases you with a sense of its usefulness and brings to you those things that are worth while in life.

There the little fishes dash back and forth, urgently pleading for the morning meal, and seem to indicate their knowledge of your intentions. If food is dropped into the water, rivalry and strife begin when each fish tries to secure the most desirable morsels; each one tries to obtain his rightful share, or a little more. Isn't this very much like the attitude of the so-called more intelligent animals?

When feeding is over, the activities of their little world begin. Their personal difficulties must be settled, their love affairs carried on, and the nest-building undertaken. One cannot understand it all, but we know that it is interesting and that the glitter of the beautiful colors adds to the charm. Keeping these little friends happy is sufficient reward for the slight effort required. To study them and to make their little lives as natural as possible is a never-ending delight.

Every person should have a hobby. We think that the most fascinating hobby is collecting and studying life in water. An aquarium may brighten many an hour for a weary man; it is restful to the busy woman, and a continued source of pleasure to the children.

Erecting an Aquarium

Place the aquarium in the position where it is to remain. Be careful that the four corners rest on the stand, so that it will not rock, and also be sure that it is level. Cover the bottom of the aquarium with about $1\frac{1}{2}$ inches of well-washed fine sand, then fill with water to about half its capacity. It is now ready to receive the plants, which may be set at the sides or the back, as you please. After the plants are in place add the fish and the snails, and fill with water to about $1\frac{1}{2}$ inches from the top.

An attractive plan for planting is to have about 2 inches of sand at the back, sloping to 1 inch at the front; this causes the dirt and refuse to roll to the low place, where it may be easily removed. The plants should be placed around the sides and across the back, leaving a clear space in front where the fish can swim and feed.

A Balanced Aquarium

THE first question the beginner always asks of the aquarist is, "How often do I need to change the water?" The answer is, if the aquarium is properly balanced the water does not need changing. The water will not become stagnant—fresh water is added only to replace evaporation.

The governing principles are very simple. The fact is that the fish exhale carbon dioxide, which the plants use, breaking up the combination, retaining the carbon for food and returning oxygen to the water for the fish to breathe. Fish and plants depend on each other.

Next we must contend with bits of decaying food and plants, so we introduce a collection of scavengers to consume this, such as snails, tadpoles, and clams; chief among these are the snails. No balanced aquarium can be maintained without them.

Some plants are better oxygenators than others, and are named according to their value—Vallisneria, Anacharis, Sagittaria, Cabomba, Hair-grass, and Ludwigia. Most of the others are ornamental. There cannot be too many plants, as long as the fish have room to swim.

The number of fish to be placed in the aquarium depends on the species. Fish that live in cold water require far more oxygen than those that inhabit tropical pools. When goldfish are to be used, a satisfactory rule is one inch of fish (not including the tail) to a gallon of water. That is to say, a 10-gallon aquarium will properly accommodate ten fish 1 inch long or five fish 2 inches long.

Tropical fish are native of warm, shallow pools, where the water contains practically no oxygen. They may be crowded in a very small space and will do well when there are 6 inches of fish to the gallon. This, and the fact that they will reproduce in a small aquarium, is what makes them so desirable.

The exchange between plants and the fish has already been explained, but the plants, in order to do their part, require light. They remain healthy and grow only under the influence of sunlight, but too much light is not desired as it induces the growth of algae and small plant-life which turns the water a dark green. This water, however, is very beneficial to the fish; in fact, fish which were sick often become well and healthy when placed in green water.

A north window is the best summer location for an aquarium, and an east window in winter. An aquarium can always be set to one side of the south or west window.

Tropical Toy Fishes

A great number of varieties of fancy, brilliant-hued Tropical Fishes are suitable for the aquarium, and as they will propagate in a small container, they afford a fascination for their owner and will always delight his friends.

"Tropical" is a name that is applied to fish that have been imported and will not stand the temperature of the water in outside pools in winter. Some of the delicate varieties require a temperature of 70

degrees or more. It will be necessary to furnish heat for this type during cold weather. This can be done by immersing a common electric-light bulb in the water; care should be taken that the metal to which the globe is connected does not touch the water. Have about an inch of the glass between the socket and water.

Nearly all Tropical Fish are very active, so it is advisable to keep the aquarium covered with a piece of glass; this also helps to retain the heat.

Viviparous Fishes

Lebistes reticulatus or Guppyi

Common name, "Rainbow Fish." This is the best known of the tropical fish, and is considered best for the beginner, as it stands a large amount of abuse. It will do well and raise large families in a temperature ranging from 50 to 100 degrees Fahrenheit. Its young are born alive; the ova are hatched within the female's body. The little fellows are capable of looking out for themselves when only a few minutes' old, and so have a fair chance to multiply. Fish which bear their young alive are known as "viviparous."

One female Guppyi will bear from 16 to 60 young about every six weeks. The males have an extraordinary variation of color, and it is practically impossible to find two alike. They are well called "Rainbows." A native of South America. 50 cts. per pair, \$1 for 3 pairs, \$10 per 100.

Xiphophorus helleri

Common name, "Swordtail." The Swordtail is next in popularity to the Guppyi, and the peculiar swordlike tail of the males makes this fish very attractive. They are viviparous, bearing their young alive, the same as the Guppyi.

The sword of the male may be green or orange, edged with black, and the body has a greenish cast. A native of the streams of Vera Cruz and the Rio Panuco River. Temperature 60 to 90 degrees Fahrenheit. \$1 per pair, \$4 per doz.

Platypoecilus maculatus

Common name, "Moon Fish." In the countries of Central America frequented by the Swordtails are also found the *Platypoecilus*. The Platy resembles the Swordtail, but lacks the sword. These fish are very closely related and are easily crossed, thereby producing hybrids.

Like the Guppyi, they belong to the viviparous group. The first two or three rays of the anal fin of the male are modified and form a sexual organ, while the anal fin of the female is a full fin; this is the method by which the fish-fancier tells the sexes.

At the base of the tail of the *Platypoecilus* is a dark crescent-shaped patch. Because of this mark the fish is known as "Moons."

Moon Fish are very easy to propagate. The dark spot at the anal of the female is caused by the presence of young fish. When the female has a distended abdomen, a brood of young fish may be expected. She should be placed alone in a small aquarium provided with plenty of plants; when the young are born she should be removed. Moon Fish will thrive and breed if kept in a temperature of 70 to 80 degrees Fahrenheit.

There are four different colors of Moons, and the dealer generally lists them as Red, Black, Blue, and Gold Moons. Any color, \$1 per pair, \$4 per doz.

Mollienisia latipinna

Common name, "Sailfin." *Mollienisia* belong to the viviparous group and are found in great numbers in the swamps and streams in the southern part of the United States. The male is very beautiful. The principal colors are light lavender, brilliant orange, black, and white.

In the water the gorgeous dorsal fin is very conspicuous, and the blue tail, while in motion, has a peculiar twisting movement which reflects the sunlight. The Sailfin is the largest of the viviparous group of fishes that are maintained in the home aquarium. They sometimes reach a length of 4

inches. This fish is very desirable as it will stand a temperature from 40 to 90 degrees Fahrenheit. It is very peaceful, seldom, if ever, attacking another fish, regardless of how small. \$1 per pair, \$4 per doz.

Mollienisia sphenops

Common name, "Black Mollienisia." A native of the southern United States. *Mollienisias*, which are all black, are never found in nature. Years of work, and carefully selected breeding conducted by fish fanciers have produced the all-black fish. When the young are born they are coal-black, but in a few weeks become dull gray; after this they gradually turn black, some, no matter how black their parents may be, will never become all black. A good male will be coal-black in six months, and a female in from one to two years. The males do not live as long as the females; for this reason a bunch of young fish will contain more males than females. Males live about four years, while females may live twelve years. Black *Mollienisia* are desirable in any aquarium, as they will feed on algae and slime, helping to keep the aquarium clean. Temperature 70 to 90 degrees Fahrenheit. The disposition and breeding habits are the same as the Sailfins. Young fish, \$1.50 per pair; adult fish, \$3 per pair.

Hybrids

These are produced by crossing Swordtail females with male Platy. In hybridizing, it is necessary to raise the female Swordtails to maturity as virgins when they may be crossed with any male Platy. All the hybrids are beautiful fish regardless of the cross. They grow to a size considerably larger than their progenitors, will live longer, and are capable of reproduction. The hybrids from the Red Platy are red with black markings. From black, we get a fish almost all black, with a few blue scales and white fins, while from the blue male Platy is developed a many-hued fish—yellow, green, and red markings with shiny scales. Red *Helleri* are produced by crossing the female red hybrid with an orange-tail Swordtail. Any color, \$1.50 each.

Heterandria formosa

Common name, "Mosquito Fish." This is the smallest viviparous fish in the world. The female, when full grown, measures about 1 inch in length and the male about $\frac{5}{8}$ inch. It is plentiful in the southern states from North Carolina to Florida. A desirable fish for the aquarium as it stands a temperature that is just a few degrees above freezing. The general coloring of the body is greenish yellow, with a dark band from the mouth to a spot at the base of the tail, and about seven or eight streaks across the band. On account of the small size of the fish, it may be confined in a pint of water; even in this small container it will breed and produce young. 50 cts. per pair, \$1 for 3 pairs, \$1.50 per doz.

Gambusia holbrooki

Common name, "Leopard Fish." The name *Gambusia* is derived from the Spanish word "gambusio," meaning an insignificant little thing. Whoever gave this name to the Leopard Fish was not well acquainted with this vicious little fellow. His common name far better describes him, as he is full of fight from his head to his tail and is capable of worrying a 3-inch goldfish to death, if they are placed together in a small glass globe. They cannot be kept in an aquarium with other fish as they spend all of

VIVIPAROUS FISHES, continued

their time tearing at the fins of any fish that is confined with them; in fact, the female will eat the male fish if he is much smaller than herself.

Breeding in the aquarium is no more difficult than with other viviparous fishes. Ripe females should be isolated in a separate tank with plenty of plants for the young fish to hide in from the mother, who will surely devour them upon discovery. The aquarist must watch the breeding-tank and remove the female as soon as she is apparently spent.

The male measures about an inch in length when full grown. In color, he is silvery white with black spots, and the blacker he is, the more preferred. The female reaches a length of 2½ inches and in color is a light gray, with the fins marked with small dark spots. The Leopard Fish will stand a temperature

as low as 40 degrees Fahrenheit. Excellent mosquito-killers for pools. This fish is found as far north as North Carolina and in the swamps surrounding the Gulf. 50 cts. per pair, \$2 per doz.

Limia vittatus

Native of Cuba. This fish makes a rather attractive addition to the well-known collection of live bearers. The color varies from a light olive to deep violet, and the sides of the body are edged with bright blue scales. Its fins are transparent and have a yellowish green cast, with a dark blotch at the base of the dorsal or top fin. The breeding habits do not differ from other live bearing fish. Females give evidence of the impending increase by the distended abdomen. The temperature should be from 65 to 90 degrees Fahrenheit. \$1 per pair, \$4 per doz.

Oviparous Fishes

(Egg-layers)

Oryzias latipes

Common name, "Medakas." The name *Oryzias* is from the Greek word "orysa" which means rice. As this fish is found in large numbers in the rice-fields of China, it is often called the "Rice Fish."

Medakas are the easiest of the egg-layers to breed. The eggs are extruded from the oviduct and cluster about the anal region of the female, resembling a bunch of grapes. They are carried here for some hours; later they are brushed off by some plants to which they become attached. The eggs are quite large and are plainly seen. After the eggs are transferred from the female to the plants, the plant may be moved to another jar where they will hatch in a few days.

The Medakas will stand a temperature as low as 45 degrees Fahrenheit, and is one of the most inoffensive fishes. This makes it very desirable for the aquarium. \$1 per pair, \$4 per doz.

Danio rerio

Common name, "Zebra Fish." The *Danio rerio* are natives of the waters of Ceylon, a small island southeast of India. It is one of the most attractive fish in our aquariums. Constantly in motion; it has never been known to stop swimming, even a fraction of a minute, when in good health. Will stand a temperature of 45 degrees Fahrenheit and propagates without difficulty in a small aquarium. One of the best fish for the beginner. The body color is a light olive-green, and a black stripe runs the length of the body from the gill-plate through the tail; fins are also striped.

The eggs are not adhesive and will fall to the bottom of the aquarium. A layer of pebbles about ½ inch in diameter should be placed over the bottom of the breeding-tank, and every few days they can be taken out and eggs removed with a siphon tube and transferred to a hatching-tank, where they will hatch in about two days. \$1 per pair, \$4 per doz.

Barbus conchoni

Common name, "Rosy Barbs." *Barbus conchoni* is a native of India, and in the wild state often reaches a length of 5 inches. Specimens raised in an aquarium seldom exceed 3 inches in length. Barbs live for some years and are easy to breed. They lay their eggs on plants the same as goldfish; also, they can be taken care of without difficulty

during the winter as they can stand a temperature as low as 45 degrees Fahrenheit.

Both sexes are alike in size, and during the greater part of the year they have the same colors, a silvery green. The female does not change color, but the male, during spawning-season, takes on a brilliant rosy hue, over which the scales appear like flecks of silver, while the side fins are suffused with orange-red and the back fin has a bright black dash at the tip. Sex can be told by the black dash on the top fin. \$1 per pair, \$4 per doz.

Barbus ticto

Common name, "Iridescent Barb." Native of India. Ticto is a desirable little fish (about 1 inch in length) to add to a happy family collection. As the common name implies, the scales reflect the light, giving the body of the fish a bronze color. The anal and venal fins are rosy red. Two black spots appear on the body, one near the head and the other near the base of the tail. Their breeding habits are the same as Rosy Barbs. Temperature from 55 to 90 degrees Fahrenheit. \$1 per pair, \$4 per doz.

Barbus semifasciatus

Common name, "Striped Barb." Native of China. When raised in an aquarium, this fish grows to a length of 2 inches. The dominant color is a bright olive-green, with several dark stripes reaching half-way around the body. From the stripes this Barb derives its Latin name, *semifasciatus*, meaning half-striped. The stripes may always be found on the female but are not noticeable on the male; at spawning-time the fins of the male appear red. Some fanciers who have had the pleasure of seeing them at this time declare they are the most beautiful of all the Barbs. Coming from southern China, they require a warm temperature; 70 to 90 degrees Fahrenheit is desired. Breeding habits, same as other Barbs. \$1.50 per pair, \$6 per doz.

Esomus danrica

Common name, "Flying Barb." Native of India. A curiosity and an interesting addition to aquarium fish. About 2 inches in length when full grown. In color it is a steel-blue, with extremely bright scales. At the base of the tail there is a large black spot which is edged with copper. The fins are transparent; all the fins are in proportion in size to the body except the pectorals, which are very large. A first

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glance suggests an airplane, as the fins are spread out straight from the sides and the fish is a very rapid swimmer. The barbels, which hang from the corners of the mouth, are about one-fourth the length of the body. Flying Barbs are easy to breed, laying large numbers of eggs on the plants, which may be moved to another aquarium to hatch. Temperature from 60 to 90 degrees Fahrenheit. \$1 per pair, \$4 per doz.

Ctenobryon spilurus

Common name, "Silver Tetra." Native of Guiana. The best known of the Tetra, as thousands of them have been bred and sold in the United States. It grows to a length of 2 inches in the aquarium. The body is very thin and deep, with the top fin large and the anal fin extending from the center of the body almost to the tail. As a showy fish it is second to none. The steel-blue body is covered with exceedingly fine scales of bright silver color, with a large black spot prominent at the base of the tail. Silver Tetra are very rapid swimmers and like to dart at and play with other fishes, but they are thoroughly harmless. In breeding habits, they are like goldfish, laying adhesive eggs on the plants. Temperature 70 to 90 degrees Fahrenheit. \$1 per pair, \$4 per doz.

Hemigrammus caudovittatus

Common name, "Tetra Von Buenos Aires." This fish was given the name of a city in the South American country of which it is a native. In the aquarium it grows to a length of 3 inches. Its brilliant color and size make it a very desirable fish. When viewed in bright light, it shines like silver, but with all its fins, except the dorsal, colored blood-red. A large diamond-shaped black spot shows prominently at the base of the tail. The sexes are alike in size and color, except in breeding season, when the fins of the male become deeper red, and the development of the eggs makes the female deeper and heavier. The eggs are small and not adhesive, and when spawned are scattered among the plants and sink to the bottom. The parents must be removed from the spawning-tank after laying the eggs or they will eat them. Temperature 70 to 90 degrees Fahrenheit. \$1.50 per pair, \$6 per doz.

Hyphessobrycon flammeus

Common name, "Tetra Von Rio." Native of Rio de Janeiro, Brazil. It grows to a length of 1½ inches. The latin word *flammeus* means flame, which describes the color. At first sight the fish appears to be all red, but the body is crossed vertically with three black stripes and the fins are edged with black. The anal fin of the male is bordered with a wider stripe of black than the female, and by this the sexes are very easily told. Breeding habits are the same as Tetra Von Buenos Aires. Temperature 70 to 90 degrees Fahrenheit. \$2.50 per pair.

Fundulus chrysotus

Common name, "Golden Fundulus." This is a native of the United States, and may be found anywhere from South Carolina to Florida, and in the swamps surrounding the Gulf of Mexico. The male and female are both colored a golden hue. The male has reddish brown spots on a glistening ground-color of golden green; also, some of the fins are spotted with red, and there is a green spot on the gill-covers. The body of the female is spotted with silver. The difference in appearance of the female and male,

caused by the spots on the body, sometimes confuses the amateur into believing them to be different species.

The *Fundulus chrysotus* will stand a temperature as low as 45 degrees Fahrenheit, and will lay eggs in a small aquarium. As with all *Fundulus*, they lay only a few eggs a day over a period of weeks, sometimes missing a few days between spawnings. They deposit one egg at a time on the plants, which can be moved to a hatching-tank. \$1 per pair, \$4 per doz.

Mesogonistius chætodon

Common name, "Poor Man's Scalare." The *Chætodon* is found along the Atlantic Coast from New Jersey south to South Carolina. It is a brackish water fish living in salt water as well as fresh water, but can be acclimated to live entirely in fresh water. Stands a temperature of 45 degrees Fahrenheit, and will live peacefully with goldfish. It is valued very highly as an aquarium fish. The *Chætodon* lays its eggs in a group on some plants that have been selected for a nest. These should be removed to a hatching-tank as the parents often eat the young fish. The eggs will hatch in 48 hours. Its coloring is very beautiful, consisting of black bands running across a brownish yellow body, and also through the fins. The largest *Chætodon* I have ever seen measured about 3 inches in length. \$1.50 per pair, \$6 per doz.

Jordanella floridae

Common name, "Flag Fish." As its name indicates, the *Jordanella* is a native of Florida, and its common name is very appropriate. The male has a row of greenish gray running along the back, a second row extending from the center of the body to the tail, while red, greenish gray, and bright green stripes extend the length of the body from the gills to the tail; the top and anal fins are spotted with red.

The female is not so attractive as she has no red color. Her body is a greenish gray which is mottled; at times, dark bars appear to run crossways of the body.

The Flag Fish will stand a temperature of 45 degrees Fahrenheit. It lays its eggs on plants in a group, and the male stands guard over them for a while, keeping the female, who would eat the eggs at once, at a distance. The plants containing the eggs should be removed to a hatching-tank as soon as laid. They will hatch in about a week. \$1 per pair, \$4 per doz.

Hemichromis bimaculata

Common name, "Jewel Fish." One of the most popular and best known of the Cichlids. It is a native of Africa, and may be found from Egypt south to the Congo River. The splendor of its color is amazing. The body, from the abdomen upward, is a bright scarlet, blending into a rich olive on the back; glistening emerald dots, in broken lines, bespangle the body and vertical fins, the latter edged with red. The breeding-habits of this fish are most interesting. Its eggs are deposited on a stone or flower-pot, to which they adhere. During incubation one parent or the other stands guard, fanning constantly with their fins to create a circulation of the water. The eggs hatch in about thirty hours. During the first three days the young are unable to swim, so the parents fashion hollows in the sand, to which they are moved. Here they are guarded by their proud parents until they are able to swim; then they will form a school, with the adults in the center, making a beautiful and interesting sight.

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Jewel Fish have vicious dispositions and should never be placed in a community tank with peaceable fish.

The adult fish enjoy a meal of angle-worms, but will take dried shrimp and daphniæ. They stand a temperature of 60 to 90 degrees Fahrenheit; 80 degrees is best for breeding. Young fish, \$6 per doz.; mated fish, \$2.50 per pair.

Cobitis fossilis

Common name, "Weather Fish" or "Doctor Fish." These are useful acquisitions to the aquarium or pool because of their habit of rooting deep into the sand at the bottom in search of food, and ejecting the sand through the gills after thoroughly separating and absorbing matter that might cause pollution of the water. The name "Weather Fish" has been given to the species on account of their peculiar actions just before a storm—they come to the surface and snap for air. During dry weather they bury themselves under the sand. It got its name of "Doctor Fish" because it eats all parasites which fall to the bottom of the aquarium. Will stand a temperature from 40 to 90 degrees Fahrenheit. Native of Germany. \$1 per pair, \$4 per doz.

Macropodus viridi auratus

Common name, "Paradise Fish." Native of southern China. One of the most interesting and desirable egg-laying fishes for the amateur. The coloration is difficult to describe, as the fish has the power to change it. At times the impression is that of a greenish brown, with a large number of stripes running vertically, alternately light and dark, verging into olive with black markings. Sometimes the stripes are iridescent blue and a deep red, while the long, graceful fins are outlined and spotted with shades of red, yellow, blue, and brown. If the fish becomes excited, as at breeding-time, the color array is very brilliant. The Paradise Fish belongs to the Labyrinth group, a class of lung-fishes which are not dependent upon the supply of oxygen in the water, but take air from the surface and store it in a cell under the gill-cover, called the labyrinth. It may readily be seen that a large aquarium or a lot of plants are not necessary for its maintenance; in fact, a pair will live and breed in a one-gallon bowl.

The breeding of the Paradise Fish is most interesting and may take place at any time during the year when food and temperature are satisfactory. At spawning-time the male begins to build the nest; coming to the surface, he will take a mouthful of air, which he coats with a mucilaginous secretion from his mouth, and expels it in the form of a bubble, beneath the spot which he has selected. This operation is industriously repeated until a substantial bubble-nest of about 3 inches diameter and one-half inch high has been completed. The female is then invited beneath the nest where they embrace and the eggs are expelled and fertilized. The eggs sink to the bottom, where they are collected by the male and placed in the nest. At this time the female should be removed or she will eat the eggs. In about 36 hours the eggs hatch, and the male must keep the baby fish in the nest. Often he is very busy, as several youngsters will fall out of the nest at the same time; if he did not put them back they would drown. After five days remove the male, as he may tire of the job and eat the little fellows.

Paradise Fish are very hardy and may be kept in the average home without any attention in regard to temperature. In their natural environment they

are subjected to very rough usage. They inhabit small pools at the base of the mountains where the water at times becomes very warm; at other times these pools become dry and the fish buries itself in the mud. They can live for some time if the gills are moist. Again, the snow and ice on the mountain top melts and the icy water fills the pool. It can be seen that it is hard to kill a fish that lives under these conditions. They must breathe the air from the surface and will not live for a long time under ice.

This beautiful fish is a great fighter, and cannot be maintained in an aquarium with other fishes. However, he is well worthy of having a small aquarium of his own in any home. \$1.50 per pair, \$6 per doz.

Osphromenus trichopterus

Common name, "Three-Spot Gourami." A native of the East Indies. The Three-Spot is a very desirable fish to add to a collection, as it is the largest of the tropical fish which will live peaceably with such small fish as the Guppy. It often reaches a length of 4 inches when raised in an aquarium holding about 15 gallons of water. The body is tan, and the large anal fin, which reaches almost the length of the body, is very beautifully spotted and mottled in colors ranging from yellow to deep brown. In the center of the body is a prominent round black spot, and another spot is at the base of the tail; the eye is black and the same size as these spots, which explains the common name. The Three-Spot is a Labyrinth or lung-fish, taking air from the surface, so may be maintained in a very small aquarium. Breeding habits same as Paradise. At breeding-time it will protect the nest, attacking any fish that comes near it. Temperature 65 to 90 degrees Fahrenheit. \$2 per pair, \$8 per doz.

Trichogaster lalius

Common name, "Dwarf Gourami." Native of India. The Dwarf is a timid, friendly fish which grows to a length of 1½ inches and will live peacefully with other fishes. In color, the body is a light blue, crossed by orange-red stripes which are formed of many tiny dots placed so closely together that they appear as lines. Its very large fins are highly colored, the same as the body, with red borders, and the dorsal and anal fins reach almost from the head to the tail, being pointed at the rear ends on the male and round on the female. The ventral fins are like threads and are as long as the body. Dwarf Gourami belong to a group of Labyrinth or lung-fishes. In breeding habits they are the same as Paradise Fish, with the exception that the Dwarf weaves small bits of plants in the bubble-nest and the female often helps in this work. Temperature from 70 to 90 degrees Fahrenheit. \$3 per pair.

Bettas

Common name, "Siamese Fighting Fish." These fish I choose to describe in a group, as they are all hybrids from *Betta splendens*. For some years past *Betta splendens* and *Betta rubra* were offered for sale, but these fish were the same species, the ones with most red being called *Betta rubra*. Ofttimes among a batch of young fish would be found some that were cream-color; these would be destroyed as scrubs. Evidently some aquarist possessed intelligence enough to cultivate these and produced the *Betta cambodia*, a beautiful fish with gold-colored body and large red fins. Through selective breeding there developed a fish with a tail that grew to three-fourths the length of the body; this was called the

OVIPAROUS FISHES, continued

Veiltail Fighting Fish. A short time after Betta cambodia were offered for sale I obtained a pair, the male of which was spawned with a female Betta splendens. From this spawning were raised about 150 fish, approximately two-thirds of which were colored like the Betta splendens; the rest were Betta cambodia. Some of the fish resembling Betta splendens were very beautiful, having dark-colored bodies and long, bright red tails. The progeny of these fishes are sold today as Betta splendens and Betta trickeri.

A few years ago an aquarist placed on the market a Blue Betta; this is known as Betta cyana (the last name *cyana* is a Greek word for blue). Another Betta is all bright green; this is called the Green Betta. Commercially, the Bettas have been a huge

success. No other fish has ever met with such demand. They are all beautiful in color, peaceful with fishes of other species—when they wish to fight they pick only on one of their own kind. They are Labyrinth or lung-fishes, and will live and breed in one gallon of water. Breeding habits same as Paradise Fish.

During breeding-time, which occurs about once a month, the males assume a grotesque appearance, the whole body shining with metallic color, while the gill-plates are thrown forward and out, exposing the red gills; with arched back and fins wide spread, he dashes back and forth across the aquarium. The body of the Betta grows about 1½ inches long. Temperature 65 to 90 degrees Fahrenheit; for breeding, 80 degrees is best. Any color, \$3 per pair.

Breeding Goldfish

Breeding takes place in an aquarium in the home generally in February, and in the pools outside from April 1 until June. However, Goldfish may spawn any time during the summer, as they are capable of spawning ten to fifteen times during the year if well fed and kept in warm water. When the female is filled with spawn, the body has an enlarged appearance. At spawning-time, the male develops small white dots or tubercles on the gill-plates and the largest bone of the pectoral fins.

All pools and aquariums should contain some plants on which Goldfish like to lay their eggs. Myriophyllum, Cabomba, or Water-Hyacinths are well adapted for this. The spawning generally takes place in the morning and continues until about noon. During this time the fish will swim rapidly about the pool, the female in the lead and the males swimming rapidly after her, sometimes crowding her against the sides of the pool and then against the plants, often pushing her clear out of the water. The eggs are distributed haphazardly all over the plants, and they are fertilized by the male as fast as they are laid. After the spawning is over, the fish will turn and start to eat all the eggs they can find. However, one female Goldfish may lay approximately 100,000 eggs a year, so if they are not crowded in small quarters, some eggs will hatch and an increase may be expected in the number of fish in the pool.

If the Goldfish are fed by the owner, they will soon become tame and will come to the side of the pool whenever anyone approaches. Also, they will not be so eager in their search for the eggs after they are laid. If fish are not fed in the pool, they will be very shy and will try to hide by stirring up the dirt in the bottom of the pool whenever they see a person approach.

Giant Goldfish

A type of Goldfish which has the same shape as the Common Goldfish, and sometimes grows to be 20 inches in length. However, they are considered large size when they measure 14 inches from the nose to the tip of their tails. Their color is white, red, red and white, or gold and black.

Breeders, assorted colors.	10	100
7 to 8-inch.....	\$7 00	\$50 00
8 to 10-inch.....	10 00	80 00
10 to 12-inch.....	15 00	120 00

(Will be furnished in all red if customers prefer.)

Comet-Tail Goldfish

The Comet is a graceful variation from all other breeds of Goldfish, as the body is long and slender and all the fins are elongated. Sometimes its tail grows as long as its body, which, together with the ability to traverse the water like a streak, makes the fish well named. To the American breeders falls the honor of producing the Comet Goldfish.

Assorted, or Red, 4 to 6-inch.....	10	100
Breeders, assorted, colors or Red.	\$5 00	\$40 00
6 to 9-inch.....	10 00	80 00
9 to 12-inch.....	20 00	160 00

The Shubunkin

The Chinese produced this fish, and the name means "brocade" in English. Its coloring is unique and no two fish will be found colored alike. They may be mottled with all the colors of the rainbow;

in fact, some dealers are listing them as "Rainbow Fish." The body-formation is a little different from that of the Common Goldfish. It is very hardy and will winter well in an outside pool.

Mottled Blue, Red, or Black.	10	100
2 to 3-inch.....	\$2 50	\$20 00
3 to 5-inch.....	5 00	40 00

Fantail Goldfish

The best known of the fancy fish. They are indeed beautiful, and the distinguishing feature is the double tail which is joined at the top. The body is very short and round, which gives them the appearance of being fat. This shape of body makes the fish slow in movement and contented in small aquariums. It will winter well in outside pools and is easy to breed.

Fantail, 2 to 3-inch.....	10	100
Breeders, 3 to 5-inch.....	\$5 00	\$40 00
	7 50	70 00

Common Goldfish

This type of fish is known as the "Woolworth Trout," as the 10-cent store of that name sells many thousands of them each year. They are native of the Liao River in Korea, where they are found in great numbers, but very few are red or any other color except plain gray. The brilliant colors that we are familiar with have been produced by selective breeding.

Breeders, assorted colors.	10	100
3 to 4-inch.....	\$2 00	\$16 00
4 to 6-inch.....	2 50	20 00
6 to 7-inch.....	5 00	40 00

Fringetail Goldfish

Generally known as the Japanese Fringetail. It was produced in Japan by people who love the beautiful. An improvement on the Fantail, the body being shorter and almost round, and the fins long and graceful, sometimes hanging like veils from the body. The caudal fin or tail is divided at the top, thus producing two complete tails. It is known as the most beautiful of the fancy fishes.

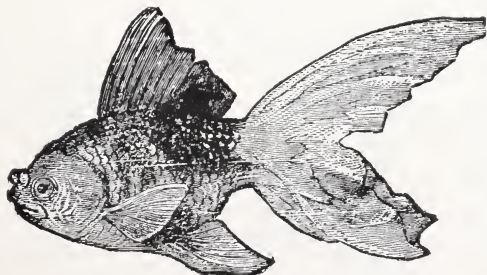
Breeders.	10	100
2 to 3-inch.....	\$7 00	\$40 00
3 to 4-inch.....	10 00	80 00
6-inch. \$5 each.		

Telescope Goldfish

These must be regarded more as freaks or curiosities than as objects of beauty. They are the product of the Chinese who are so skilful in producing such things. The eyes project far from the head, thus giving them their name. There is quite a similarity between their expression and that of the face of a pug dog. At first sight one may regard them as the extreme of ugliness. However a closer acquaintance is apt to modify this opinion. As the ways of fish go, they may be regarded as affectionate; at least they are docile and always ready to accept food and lots of it. Telescopes may be either single, fantailed or fringetailed, and the color may be gold, pearl, black, or brocade. Some fine specimens have six different colors, consisting of blue, black, yellow, green, red, and white.

A jet-black fish, known as the Chinese Moor, is regarded as the most valuable. As usual with homely creatures, the uglier a Telescope fish looks, the better fish it is. In spite of the large size of their eyes, a Telescope fish does not seem to have as good vision as do fish with normal eyes. This is due to the fact that their eyes are overdeveloped, similar to the overdeveloped tails on Fantails and Fringetails, causing them to be sluggish in their movements and to swim with difficulty. The origin of the weird Telescope-eyed Goldfish has been the subject of fanciful theories, but there can be little doubt that the strain was produced by selective breeding from the individuals which showed more or less bulging eyes. Telescope eyes vary considerably in shape and in direction. The majority of them are spherical or conical. Tubular eyes are rare and highly prized, but any form is considered good so long as they are large and stand out far from the head. Some telescope eyes point forward; this is unusual. Telescopes are very easy to breed, and, as their eyesight is poor, they are not so apt to eat their eggs and young.

Breeders, 2½ to 3-inch.....	10	100
Extra large, 5-inch. \$5 each.	\$10 00	\$80 00



Japanese Fantail Goldfish. See page 6

Floating Plants

Azolla (*Azolla caroliniana*). Small, crinkly, green plants which resemble miniature ferns in the pool. If exposed to bright sunlight, they turn a dark, rich red. Portion, 25 cts.

Duck-Weed (*Lemna minor*). Tiny plants about ¼ inch in diameter, which float on the surface. Excellent food for goldfish. Portion, 25 cts.

Salvinia (*Salvinia braziliensis*). Dainty green leaves covered with tiny plant-hairs which produce a velvety nap. They grow in a chain, and after seven or eight leaves are produced they divide into new plants. Portion, 25 cts.

Water-Lettuce (*Pistia stratiotes*). The blue-green leaves form a rosette which resembles a head of lettuce. Will grow well in shade. 15 cts. each, \$8 per 100.

Water-Fern (*Ceratopteris thalictroides*). A true Fern which floats on the water. As the leaves age, young plants spring out from their edges, gradually building up a large floating mass. 15 cts. each, \$6 per 100.

Water-Hyacinth (*Eichhornia crassipes major*). The shiny dark green leaves project from 3 to 10 inches above the water, and the stems contain bulbs which are filled with air. Flowers are purple and are shaped like an ordinary hyacinth. The roots are long and bushy, making an ideal nest in which goldfish can spawn. 15 cts. each, \$6 per 100.

Sample Collection, 5 varieties of Floating Plants, for only **50 cts.**

Oxygenating Plants

Vallisneria spiralis. Common names, "Ribbon Grass, Tape Grass, or Italian Vallisneria." Most popular of the aquatic plants used in planting an aquarium, and as it multiplies very rapidly, it soon produces a dense growth which gives off an abundance of oxygen. The leaves are green and grow straight from the sand at the roots to the surface of the water, producing a very decorative effect. The plant does best in warm water, therefore is most desirable in tropical aquariums.

Sagittaria gigantea sinensis. Common name, "Giant Sagittaria." This plant ranks highest as an oxygenator. The leaves are dark green and are broader and tougher than *Vallisneria*. Bears clusters of white flowers above the water in summer.

Sagittaria natans. Produces long, slender, light green leaves, and spear-shaped floating leaves. Flowers like *Sagittaria gigantea sinensis*.

Sagittaria subulata. Common name, "Dwarf Sagittaria." This plant grows to a height of about 2 inches and is very desirable for small aquariums and for planting in the foreground in large tanks. Leaves narrow, thick and dark green.

Cultivated Anacharis. Claimed by some aquarists to rank highest as an oxygenator, it is also one of the most popular aquarium plants. It is a rapid grower, obtaining a length of several feet. Stocks may be broken apart, and, when planted in sand, readily take root, producing new plants.

Wild Anacharis. Without doubt the best oxygenating plant for the lily-pool, but is not suitable for the aquarium as it grows eight months of the year only, and when decaying in the aquarium may produce undesirable results.

See prices of Oxygenating Plants on page 8



Vallisneria spiralis



Giant Sagittaria



Sagittaria subulata



Ludwigia

Elodea. Floats in a dense mass, affording shelter for baby fish. Very good as an oxygenator and the breeding-tank will require no other plant. This floating plant may be moved from one aquarium to another without any setback.

Cabomba caroliniana. Common name, "Fanwort." A bright green plant with a stock like a straw, from which grow fan-like leaves. A good food for goldfish, providing a laxative to their diet. The most common aquatic plant sold in pet shops.

Myriophyllum. Very similar to cabomba and used extensively for goldfish to spawn their eggs on in the spring. The leaves are very fine and make a good nest. A good plant for the lily-pool.

Ludwigia. There are a large number of species of Ludwigia, but the best variety comes from South America. It is desirable for its decorative value. The under side of the leaves is red, contrasting with the other plants.

Eleocharis acicularis. Common name, "Hair Grass." The dark green leaves look like bunches of hair growing out of the sand. A small clump in front of other plants is attractive.

Southern Spatterdock. A beautiful light green aquatic plant which has become very popular as an ornament. The leaves are large, and when about 6 inches long are $1\frac{1}{2}$ inches wide.

Herpestis. One of the newer introductions. The stem is large and the leaves are oval. When growing above water it has clusters of purple flowers, with a pleasing fragrance.

Lysimachia. A light green plant with round leaves. A desirable ornamental for aquarium or pool.

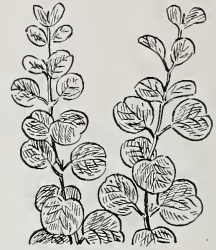
Potamogeton crispus. One of the best plants for lily-pools as it propagates rapidly in rich soil. The leaves are various shades of green and red.

Cryptocoryne. This is the most expensive of all desirable oxygenating plants. Although it was imported a number of years ago from Europe, it propagates so slowly that it is seldom offered for sale. The plant is a desirable size, with short, broad dark green leaves.

	Each	10
Anacharis (<i>Elodea canadensis</i>)	\$0 15	\$1 00
Cabomba (Fanwort)	15	1 00
Myriophyllum	15	1 00
Herpestis	15	1 00
Ludwigia	15	1 00
Sagittaria		1 00
Vallisneria		50
Lysimachia	15	1 00
Potamogeton		1 00
Southern Spatterdock	25	1 25
Eleocharis (Hair Grass)	25	
Elodea	25	
Cryptocoryne	1 00	



Southern Spatterdock



Lysimachia

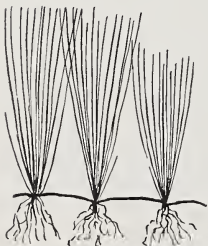


Azolla



Duckweed

8 Varieties of Oxygenating Plants \$1
in collection for only . . .



Hair Grass



Anacharis



Cabomba



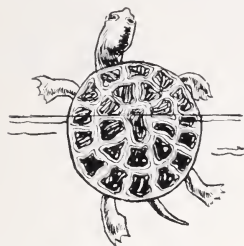
Myriophyllum



Salvinia

Scavengers

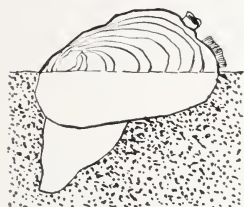
Clear, clean water in the pool or aquarium is desirable and may be obtained by using the proper plants and scavengers. Snails, tadpoles, newts, turtles, and clams—all perform certain beneficial work.



Geographic Turtle



Frog



Clam

Geographic Turtles. As these little fellows enjoy sunning themselves on the lily-pads, they make interesting ornaments for the pool. They also will eat dead fish, snails, clams, or any other creature that happens to die in the pools. 25 cts. each.

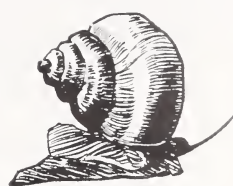
Tadpoles. The younger generation of the frog family, which lose their tails and develop feet the first or second season and become frogs. The Tadpoles consume the refuse from the fish, eat the excess food which falls to the bottom, and decaying plants. Entirely harmless to other inhabitants of the pool. 60 cts. for 10.

Green Frogs. Good mosquito-catchers; also the musicians of the pool. Their grandstand is the lily-leaves. 25 cts. each.

American Newts. Make very interesting pets, and if regularly fed soon come to recognize you. It is fun to watch these little fellows at feeding-time. In color the back is a rich olive-brown, spotted with red and black; the under parts are yellow and orange. The males are easily told from the females as their hind pair of legs is three times bigger and thicker than the front pair. 25c. each.

Clams or Fresh-Water Mussels. These filter all floating organisms from the water, leaving it crystal clear. They are equipped with a siphon arrangement by which they suck water in one opening and eject it from another, by this means obtaining their food. 15 cts. each.

Japanese Live-bearing Snails. Large, hardy Snails which live for some years. Very active in eating algae and scum. Interesting in that they bring forth fully developed young about the size of a pea, which are able to take care of themselves among goldfish. 15 cts. each.



Japanese Snail



Red Ramshorn Snail



African Snail



Pond Snail

Trumpet Snails. One of the best Snails for the pool as they consume large amounts of algae and decaying vegetable matter. They lay thousands of eggs which, when hatched, furnish food for the fish. Recommend to breeders of game-fish and can be furnished by the thousands. 50 cts. for 10.

Red Ramshorn Snails. These are the best and most ornamental of the aquarium scavengers. 25 cts. each, \$2 for 10.

African or Paper-shell Snails. Light yellow-brown, with dark spots. 50 cts. for 10; \$3 per 100.

All Fish and Scavengers must be sent by express. For this purpose we furnish metal containers, the cost of which will be added to the invoice. Containers returned to us by prepaid express will be credited at the invoice price.

The Fish listed in this Catalogue will be in stock constantly and can be shipped at any time. At times we have limited numbers of the rarer Tropical Fish on hand, and if you desire to obtain any Fish not listed, we will be glad to get them for you if possible.

Black Ramshorn Snails. Very active in removing algae and scum. Multiply very rapidly. 50 cts. for 10; \$2.50 per 100.

JUMBO FROGS

These big fellows, with their melodious voices, are needed to give the real touch of nature to a pool. They take care of themselves, but never harm the fish. A pair will give a lot of pleasure to visitors. A pair of breeding size for only \$5.

Fish-Food and Aquatic Supplies

The various items here listed can be shipped immediately, as we carry a supply amply large for your requirements. In all cases, it is advisable to send supplies by express.

Buskirk's Vitamin Fish-food. A food scientifically prepared and balanced, and contains all the elements and vitamins for the health and growth of fish—80 per cent meats, 20 per cent cereals and salts. All valuable tropical and goldfish at our greenhouses are raised on this food. Where only adult fish are to be fed, a small feeding-ring should be used, as the food is prepared so that the fine particles will run over the surface of the water to

the plants at the back of the aquarium where the baby fish hide and feed. Pkg. 50 cts., pt. \$1, qt. \$1.75.

Pure Dried Shrimp. An excellent food for gamefish, goldfish, and tropicals. Lb. (or 1 qt.) 75 cts.

Dried Daphnia. The carcasses of small crustaceans, sometimes called "water fleas." High-quality fish-food; does not foul the water unless fed in large quantities. Excellent for tropical fish. Qt. \$2.50.

FISH-FOOD AND AQUATIC SUPPLIES, continued

Independence Prepared Fish-food. Contains meat and cereals. A balanced food giving the fish a variety of diet. Lb. 75 cts.

Enchytre Worms. Small white worms, a live food for feeding tropical fish. The worms are raised in a mixture of good soil, leaf-mold preferred, and are fed on bread and milk every two weeks. 1-qt. carton 75 cts.

Turks Island Sea Salt. Does not contain any ingredient to prevent it from caking. Fish exhaust the supply of salt in the aquarium in approximately one month. This should be replenished, using salt as a preventive for disease. Is far better than any cure. Qt. 50 cts.

Buskirk's Aquarium Chemical Neutralizers. Retards development of ichthyophthira in tropical aquariums; prevents decaying of snail-shells; neutralizes the ammonia produced by decaying plants. Necessary in all balanced aquariums. 2 for 25 cts., \$1 per doz.

German Fungus Cure. A cure for most fish diseases; removes scum or fungus growth in a few hours. It is advisable to use as an antiseptic before introducing new fish in the aquarium, or on fish after a trip in a shipping-can.

Aquarium Cement. For constructing or mending aquariums. Oil in small can and dry powder, packed in a quart carton, to be mixed as needed. Full directions on package. Carton \$1.

Dip-Nets. Goldfish Nets, 6-in., with 2-ft. wood handles. 50 cts. each.

Small Cloth Nets, 3-in., 15 cts. each.

Glass Thermometer. 50 cts. each.

Glass Feeding-Ring. 10 cts. each.

Glass Dip-Tubes. To remove sediment from aquarium. 40 cts. each.

Buskirk's Aquarium Heater

Made of a glass tube filled with glass sand in which is installed an electric bulb. If light is desired, you may raise the bulb above the sand. The top of the tube is covered with a removable rubber cap which prevents water from the glass aquarium cover from dropping into the tube. If more heat is desired, change to a larger watt bulb. When heater is installed *the bulb only* should be covered with sand; the socket should not be covered. Standard sizes always on hand are 6 in., 9 in., 11 in., 12 in., and 15 in. Price \$2 each.

Tropilite Heater and Illuminator

This Heater contains a patented reflector which casts the light to any part of the aquarium desired, also a movable cork inside the glass tube, which can be adjusted to the water-level, thereby obtaining efficient heating. Electric-light bulb may be changed if more heat is desired. 9-in. size, \$2.75; 12-in. size, \$3; 15-in. size, \$3.50.

Aquariums

Each season sees the Aquarium growing in popularity. It is valuable from an educational point, as it gives an opportunity to study different types of animal and plant-life at close range.

We carry a large stock of Aquariums on hand at all times, therefore your order will be filled promptly.

Handy Aquariums

No. 301. 10 x 6 x 7 inches. Welded steel frame; painted green. Holds about 2 gallons of water. \$1.25 each, \$12 per doz.

No. 302. 12½ x 7½ x 8½ inches. Welded galvanized steel frame; painted cream or green. Holds about 3 gallons of water. \$2.50 each.

No. 303. 14½ x 9½ x 11½ inches. Constructed same as No. 302. Holds 6 gallons of water. \$4 each.

Victor Aquarium

An Aquarium that will last a lifetime. Clear, double-strength glass; slate bottom; block aluminum feet; rigid, angle-drawn frame of polished aluminum. Readily kept bright and attractive looking in its natural finish. Shipped in wooden box, which guards against breakage.

Length inches	Width inches	Height inches	Gallons	Price
12½	6½	8½	3.....	\$3 75
14½	8½	10½	5½.....	5 50
20½	8½	10½	7½.....	7 50
24½	8½	10½	9.....	9 00
20½	10½	12½	11.....	10 00
24½	10½	12½	12½.....	12 00
20½	12½	14½	15.....	12 00
24½	12½	14½	18.....	13 00

Majestic Aquarium

We take pride in offering you this Aquarium. Its beauty must be seen to be appreciated. Made with a nickel-plated, heavy-angle steel band around the bottom and manell metal corners which will never rust. No metal band is used around the top; the bottom is an extra-thick piece of tested plate-glass; the sides and end glass are heavy plate with ground and polished edges. Some of the larger sizes contain glass almost ¾ inch thick. Where the glass joins they are anchored together so they cannot spread. This Aquarium is so constructed that it may be moved while filled with water without danger of leaking; in fact, we guarantee it from leaking for one year. If the Aquarium should accidentally become broken, you may have it repaired by us at a small cost. These Aquariums can be made any practical size or shape you may desire. We will be glad to quote you a price.

Standard sizes packed in wooden box for shipping.

Length inches	Width inches	Height inches	Gallons capacity	Price
16	8	10	5	\$6 00
20	10	12¼	10½	10 00
20	10	14¼	12½	11 50
24	12	14	17	15 00
30	10	12	15½	15 00
30	12	14	22	22 00
36	14	14	31	30 00

Can be equipped with an outlet connection for running water at a cost of \$2.50 extra.

Ornamental iron stands with vitrolite or white marble shelf and top can be furnished for Aquariums. Prices quoted on request



Hardy Waterlilies for Pools and Tubs

White Waterlilies

GLADSTONE. The King of the Whites, surpassing all other *Nymphaeas* in size and freedom of bloom.

\$1.25 each, \$10 for 10, \$85 per 100

GONNERE. One of the new Lilies from Latour-Marliac. "The variety reminds one of *Tuberosa Richardsons* in many respects but it is more interesting because more floriferous. Large, very double, pure white flowers; stamens canary-yellow."

\$4 each, \$35 for 10, \$300 per 100

Loose. Originator's description: "A beautiful, large, white Waterlily, 5 to 7 inches across, with a peculiarly delightful fragrance. Particularly desirable, as it is a free and continuous bloomer, the flowers opening earlier in the day than any other Waterlily."

\$1.50 each, \$12.50 for 10, \$100 per 100

Marliacea albid. Blooms continually throughout the season. The petals are white; yellow stamens. Really an excellent variety.

\$1 each, \$8.50 for 10, \$75 per 100

Odorata. Indigenous to the northeastern United States. The flowers are of medium size, white, with yellow stamens. Well suited for planting in ponds to obtain natural effects, and should be used freely because of its beauty.

40 cts. each, \$2.50 for 10, \$20 per 100

Odorata gigantea (Hopatcong). Well known in southeastern United States, where it grows naturally in ponds. Flowers pure white, quite large, and produced freely.

50 cts. each, \$3 for 10, \$25 per 100

Odorata minor. A dwarf form of *N. odorata* and more suitable for tub-growth.

50 cts. each, \$3 for 10, \$25 per 100

Tuberosa maxima. Pure white, fragrant flowers of medium size, and globular shape. The *Tuberosa* varieties are good for naturalizing as they are strong growers and will do well in deeper water than most varieties.

50 cts. each, \$4 for 10, \$35 per 100

Tuberosa Richardsons (Snowball). Flowers perfect cup-shape, pure white, double, and of good size—generally 6 to 8 inches across—with petals which are somewhat fluted in the center. True variety.

\$2.50 each, \$20 for 10

Vera Louise. This is a new white Waterlily that is very promising. Large, very fragrant, and a good strong grower.

\$2 each, \$17.50 for 10, \$150 per 100

Pink Waterlilies

COLLOSSEA. This magnificent variety is flesh-colored at first, then turning to white. One of the first to bloom in spring and continuing all through summer.

\$4 each, \$35 for 10, \$300 per 100

Eugenia de Land. Flowers deep rose-pink, with long, narrow petals and yellow stamens, borne upon the surface of the water. The plants are strong growers and will produce flowers freely.

\$1 each, \$8.50 for 10, \$75 per 100

Gloire du Temple-Sur-Lot. (New.) Remarkable and very large, double *Nymphaea* resembling an immense decorative dahlia in form. Opens a beautiful pink that changes gradually to a pure white; stamens yellow; very fragrant. Frequently has over a hundred long, narrow, curled petals.

\$4 each, \$30 for 10

Goliath.

\$5 each, \$45 for 10

Helen Fowler. A seedling with deep pink, fragrant flowers 3 to 5 inches across. A strong grower and a continuous bloomer.

\$1 each, \$8 for 10, \$75 per 100





Two naturalistic pools of Independence Nurseries Co.

PINK WATERLILIES, continued

- Laydekeri rosea.** \$3 each, \$25 for 10, \$200 per 100
- Marguerite la Place.** \$6 each, \$50 for 10
- Marliac Flesh.** Color light pink, which grows somewhat darker toward the base of the petals.
\$1.25 each, \$10 for 10, \$85 per 100
- Marliac Rose.** The flowers are deep rose-color. One of the peculiarities of this plant is that the young, tender leaves are blush-red, changing to deep green as they become older.
\$2 each, \$17.50 for 10, \$150 per 100
- Mme. Wilfon Gonnere.** Flowers unusually large, with a double row of petals. The color is bright rosy carmine, resembling the La France rose.
\$8 each, \$75 for 10
- Masaniello.** An exquisite shade of pink. The plant is unusually strong-growing and blooms freely.
\$2 each, \$17.50 for 10, \$150 per 100
- Morning Glory.** A beautiful Nymphaea of our own introduction. The color is a delicate shell-pink, almost white at the petal tips, shading deeper toward the center of the flower; fragrant.
\$2 each, \$17.50 for 10, \$150 per 100
- Mrs. Richmond.** A rare variety of singular beauty. Very large flowers of deep rose with lilac tints; petals broad and full; stamens a delicate canary-yellow. Rare and extremely choice.
\$5 each, \$40 for 10
- Neptune.** An attractive combination of rosy pink flecked on white, deepening the shading from the tip to the base of the petals, and from the edge to the center of the large cup-shaped flowers.
\$3.50 each, \$30 for 10, \$275 per 100
- Ordorata rosea.** The Cape Cod Pond-Lily. Flowers 4 to 5 inches across, beautiful rose-pink, very fragrant.
75 cts. each, \$6.50 for 10, \$60 per 100
- Odorata, W. B. Shaw.** The fragrance of the blooms, added to their rich rose-color, makes this one of the most attractive hardy Nymphaeas. It produces flowers almost continuously.
50 cts. each, \$3.50 for 10, \$40 per 100
- Pink Opal.** A new deep pink variety which has proved its value. The buds are almost round, opening into a flower with comparatively short petals, and having a distinct value for cutting.
\$1.25 each, \$10 for 10, \$85 per 100
- Rose Arey.** This variety seems to be in bloom all the time, and the dark pink color of the blooms is very effective. The plants make a strong, heavy growth.
\$1.75 each, \$15 for 10, \$125 per 100
- René Gerard.** \$5 each, \$40 for 10
- Tuberosa rosea.** The blooms are a delightful shade of pink, usually 4 to 5 inches across, and borne well above the water, making them very desirable for cutting. Plants are vigorous in growth and bloom freely.
75 cts. each, \$6 for 10, \$50 per 100
- William Doogue.** Delicate pink blooms, with a fragrance which renders them doubly attractive. Plant blooms continually, and the splendid, cup-shaped flowers, 5 to 6 inches across, form a desirable addition to any pool.
\$2 each, \$17 for 10, \$150 per 100

We have just issued a special Catalogue of Rock-Garden Plants which will be sent on request to those gardeners who are interested



Nymphaea Marliac Flesh. See page 12.

Red Waterlilies

Atropurpurea. \$4.50 each, \$40 for 10

Attraction. The color of this superb variety is deep red, tinged with rose, and the sepals are white, striped with color of the flower. This is easily the largest hardy Waterlily in cultivation, as it will frequently produce blooms 8 inches across.

\$3 each, \$25 for 10, \$225 per 100

Escarboucle. \$4.50 each, \$40 for 10, \$350 per 100

GLORIOSA. This can well be called the most satisfactory Waterlily. It is the earliest to bloom, and continues to flower until late summer, producing more blooms than any other sort. In the spring the flower is colored a deep carmine, which becomes darker as the season lengthens. The blooms are perfect in form, and 4 to 6 inches across.

\$2.50 each, \$20 for 10, \$175 per 100

James Hudson. \$8 each, \$75 for 10

James Brydon. An unusual rosy crimson flower, beautifully cup-shaped and of free-blooming habit. The foliage is handsome.

\$2 each, \$17.50 for 10, \$150 per 100

Laydekeri purpurea. Deep rose-crimson with extremely brilliant orange-red stamens.

\$2 each, \$15 for 10, \$125 per 100

Robinsoni. \$2 each, \$17.50 for 10, \$150 per 100

Vesuve. The petals are a very bright, dark red, the stamens are red, tipped with yellow—a striking color combination that attracts the attention of the visitor. Next to Gloriosa it is the freest flowering red Lily. Young leaves are dark red, mottled with brown.

\$2.50 each, \$22.50 for 10, \$200 per 100

Every Garden May Have Waterlilies

Waterlilies need no attention after planting, other than to see that the pool or tub has an ample depth of water. If planted in a natural pond, the tubers may be sunk in the soft bottom; if in a pool or tub, the tubers should be put in a box of soil (about 2 feet square and 1 foot deep), cover the soil with an inch or so of clean sand, then fill with water.

Yellow and Copper-Bronze Waterlilies

Aurora. When the flowers first open they are a creamy yellow tinted with rose, which gradually changes to a dark red by the third day. A small plant, suitable for tub-culture.

\$1 each, \$8.50 for 10, \$75 per 100

Comanche. A strong-growing variety and the finest of the changeable types. The prevailing color the first day is apricot, deepening later to a rich copper-bronze, streaked with red.

\$1.75 each, \$15 for 10, \$125 per 100

Indiana. This brilliantly colored and prolific type changes from yellow-orange to bright coppery red. Leaves heavily blotched, showing little of the olive-green through the dark maroon shading.

\$1.50 each, \$12.50 for 10, \$100 per 100

Marliacea chromatella. Medium-sized flowers, usually 4 to 6 inches across, bright yellow, with stamens somewhat deeper in color. Leaves green, mottled brown. One of the best yellows and a most satisfactory Waterlily. Best seller on the market today.

75 cts. each, \$5 for 10, \$35 per 100

Paul Hariot. Certainly one of the very best varieties, and one of the most beautiful of the hardy Lilies. Petals are clear yellow, shading to red toward the center of the flowers and at the base of the petals. The plants bloom almost continuously, and are most satisfactory for planting in home-grounds.

\$1.75 each, \$15 for 10, \$125 per 100

Phoebus. In color, shades between copper-bronze and yellow. Good-sized flower.

\$2 each, \$17.50 for 10

Sioux. Changeable bronze-red.

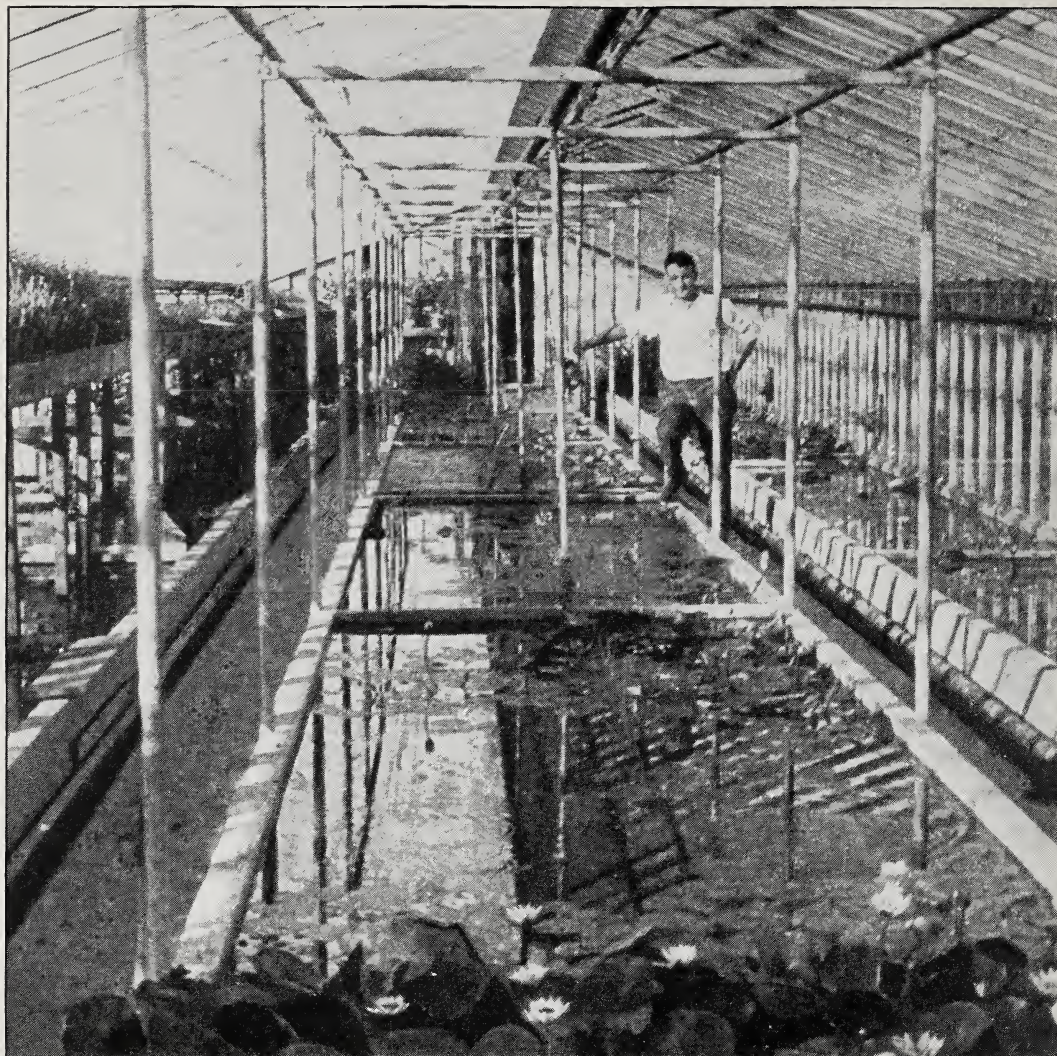
\$1.25 each, \$10 for 10, \$85 per 100

Solfatare. Changeable brassy pink.

\$1.75 each, \$15 for 10, \$125 per 100

Sunrise. Flowers 8 to 10 inches across, with clear yellow petals and lemon-yellow stamens. A beautiful Waterlily.

\$3 each, \$25 for 10



Under this broad expanse of glass most of our Tender Waterlilies are propagated

Tropical Waterlilies

BLUE, LAVENDER, PURPLE, RED, WHITE, AND PINK

Tropical Waterlilies, or Nymphaeas, have many desirable qualities. Although they are set out late in the season, usually June, they make such remarkable growth that within several weeks blossoms appear, and continue increasing in size and numbers until heavy frosts destroy the foliage.

Night-blooming Tropicals

The Night-blooming or, more accurately, night-opening Nymphaeas, are derived from very ancient parentage. To the Egyptians, they were known as the Lotus, and from the records remaining to us we may trace the important part they played in the life and religion of this mystic race. Opening at dusk, these flowers are the guardians of the night, not closing again until the sun is high in the heavens; and if the sky be overcast, the vigil continues through the whole day, perhaps, and the following night until the wayward sun returns, or the bloom's allotted span of life (five days) has passed.

Do not fail to see the tropical birds and Rock-Gardens while at the nursery

Bisset. Rose-pink flowers, frequently 10 inches in diameter; petals broad, concave, giving a cup-shape effect; deep orange stamens.

\$1 each, \$8.50 for 10, \$75 per 100

Dentata. Flowers pure white, with golden yellow stamens. They are large and open out flat.

\$1 each, \$8.50 for 10, \$75 per 100

Dentata magnifica. Similar to the preceding in color, but because of selection the blooms are very much larger.

\$1.25 each, \$9.50 for 10, \$85 per 100

Dentata superba (Juno). It would seem that perfection in white Waterlilies has almost been achieved in this variety. It probably produces the largest flowers of any of the night-blooming tropicals.

\$1.75 each, \$15 for 10, \$125 per 100

NIGHT-BLOOMING TROPICALS, continued

Devoniensis. Bright rosy red. Several flowers, from 8 to 10 inches in diameter, are produced at one time, and carried on stems well above the foliage.

\$1 each, \$8.50 for 10, \$75 per 100

Frank Trelease. Dark crimson, with deep reddish brown stems. Flowers are from 8 to 10 inches in diameter.

\$1 each, \$8.50 for 10, \$75 per 100

O'Mara (Omarana). Deep rose-red petals which are marked by a white stripe through the center; stamens orange-red.

\$1 each, \$8.50 for 10, \$75 per 100

Rubra rosea. Brilliant rosy carmine, with reddish brown stamens.

\$1 each, \$8.50 for 10, \$75 per 100

Sturtevant. Bright pink, flushed with red. A valuable variety for large pools and ponds.

\$1.50 each, \$12.50 for 10, \$100 per 100

Seeds

We have a limited amount of seed of the Tender Waterlilies, mixed varieties, at 50 cts. per pkt.

Also, the Sacred Lotus seed in separate colors—Pink, White, and Yellow—at 50 cts. per pkt.

Day-blooming Tropicals

August Koch. Viviparous blue with lilac-purple shading.

\$1.50 each, \$12.50 for 10, \$100 per 100

Bluebird. A real blue. Viviparous.

\$3 each, \$25 for 10

Colonel Lindbergh. Exceedingly large flowers, deep blue in color and distinctly fragrant. The blooms are carried a foot or more above the water. The leaves are oval, dark green, flaked with brown on the upper surface and purple and brown on the under side.

\$1.75 each, \$15 for 10

Dauben. The best known viviparous Lily. Produces small blue flowers in great profusion. The small leaf-plants frequently bloom while still attached to parent plant. Fine for tub or aquarium culture. A continuous bloomer.

75 cts. each, \$6.50 for 10, \$50 per 100

General Pershing. One of the finest novelties of recent years. Very large, fragrant flowers of pure, warm pink, unlike any other Day-blooming Waterlily. Very free-flowering and one of the most highly prized.

\$2.50 each, \$20 for 10

Janice. A new pure white, bell or cup-shaped Waterlily originating at Independence. We consider it one of the finest day-bloomers.

\$2.50 each, \$20 for 10

Mrs. C. W. Ward. Petals rich rose-pink, illumined by a mass of golden stamens. Flowers are borne well out of the water.

\$1.50 each, \$12.50 for 10, \$100 per 100

Mrs. Edwards Whitaker. The largest and most striking of the day-blooming tropical Lilies. Its blooms are frequently over a foot in diameter and are produced in quantity. The color is lavender-blue, which becomes paler as the bloom ages. Petals slightly rounded at the tips and quite numerous.

\$2 each, \$17.50 for 10, \$150 per 100

DAY-BLOOMING TROPICALS, continued

Mrs. George H. Pring. A new and novel type that produces numbers of large, fragrant, white flowers with pointed petals.

\$1.50 each, \$12.50 for 10, \$100 per 100

Mrs. Robert Sawyer. Light pink. Plant is a strong grower and carries many flowers at one time.

\$1.75 each, \$15 for 10

Mrs. Woodrow Wilson. Lavender-blue. Plants of medium growth and adapted to tubs and small pools.

\$1.25 each, \$10 for 10

Panama-Pacific. Flowers deep royal purple, with yellow stamens. The buds are green-bronze, flaked with red-brown, and the petals edged with red. Like the other viviparous Lilies, it blooms freely and perpetually in the proper environment. One of the best conservatory types.

\$1.50 each, \$12.50 for 10, \$100 per 100

Pennsylvania. Deep blue flowers a foot across and produced freely; sepals marked with purple lines and dots. The leaves are slightly speckled with brown above; beneath, the ground-color is red-purple at the edge, shading to pale green centers. Desirable in a small pool or tub.

\$1.50 each, \$12.50 for 10, \$100 per 100

William Stone. Rich violet-blue, shaded amaranth

\$1.25 each, \$10 for 10, \$85 per 100

Zanzibariensis. Flowers are deep purple, some 6 to 8 inches across; fragrant.

\$1.50 each, \$12.50 for 10, \$100 per 100

Zanzibariensis azurea. Similar to the preceding, except that the flowers are lighter in color and a trifle more open.

\$1.25 each, \$10 for 10, \$75 per 100

Zanzibariensis rosea. General characteristics of this plant are the same as the above, with the exception of the colors, which are in various shades of rose. Opens earlier in the morning than other sorts.

\$1.25 each, \$10 for 10, \$75 per 100

MIXED VARIETIES. There are always some of the Tropical Lilies becoming mixed, which we are not sure of, and we will sell these unnamed.

75 cts. each, \$6.50 for 10, \$50 per 100



Day-blooming Tropicals



Nelumbium speciosum. Lotus of the Nile

Nelumbiums—the Water Lotuses of Ancient Worship and Lore

Album grandiflorum (Magnolia Lotus). Pure white flower with delicate fragrance. Extra-large foliage.

Roots, \$1.50 each, \$12.50 for 10, \$100 per 100

Potted plants, \$1.75 each, \$15 for 10

Flavescens. Exceedingly beautiful creamy white flowers.

Tubers, \$1.75 each, \$15 for 10

Potted plants, \$2 each, \$15 for 10

Luteum. This variety, native to some of the states in the South and West, is commonly known as the Water Chinquapin or American Lotus. Flowers rich yellow.

Tubers, \$1 each, \$8.50 for 10, \$75 per 100

Potted plants,

\$1.50 each, \$12.50 for 10, \$100 per 100

Pekinensis rubrum plenum. The full double flowers are bright rosy carmine and carried well above the foliage.

Roots, \$2.25 each, \$20 for 10

Potted plants, \$3 each, \$25 for 10

Speciosum. The Sacred Lotus of the Nile. It grows well under almost all conditions. Both flowers and leaves stand well above the water. The rosy pink blooms are always large and fragrant.

Tubers, 75 cts. each, \$6.50 for 10, \$50 per 100

Potted plants,

\$1.25 each, \$10 for 10, \$75 per 100

Marsh or Bog Plants

Butterfly Lily (*Hedychium coronarium*). The masses of fragrant, pure white flowers, looking much like large white butterflies, are borne in large, terminal clusters, on every stalk all summer and fall. \$3 00 \$25 00

Butterfly Lily (*H. chryssoleucum*). Similar to above, except flowers have a yellow blotch in center of the largest petal. 4 00 35 00

Butterfly Lily (*H. flavum*). A very attractive variety bearing large clusters of delicate creamy yellow flowers. Splendid for a contrast with the other sorts. 5 00

White Calla Lily (*Zantedeschia aethiopica*). A well-known house-plant that can readily be grown in moist places at the edge of the pool. Flowers pure white. 5 00 40 00

Yellow Calla Lily (*Z. Elliottiana*). Similar to the preceding but with yellow flowers. 5 00 40 00

Forget-me-not (*Myosotis scorpioides*). Small blue flowers with golden centers; dark green foliage. Very attractive along a stream and will grow equally well in water or on the border. 1 50 12 00

Iris Pseudacorus (Yellow Flag). A tall, sword-leaved plant bearing broad yellow flowers of the Japanese Iris type. Valuable and attractive. 1 50 12 00

Iris Pseudacorus gigantea. A giant-flowered form of Pseudacorus. Will attain a height of 7 feet when growing conditions are right. 2 50 20 00

Iris Pseudacorus alba. Very rare white form of Pseudacorus. \$2 each..

Trout-Pond Plants

Seldom do trout-ponds or streams have enough plant-life to meet the needs of the fish. Now it is easy—and inexpensive—to secure the necessary plants.

We grow pond-plants in enormous quantities, grouping the varieties in a Special Trout-pond Collection at \$6 per bushel

For the center of pools, the varieties of Lotus are especially desirable as they contrast well with the lower-growing Waterlilies. If space is limited, they may be used as specimens in a large tub. They are not common, and therefore are always interesting.

With entire confidence you may recommend to your trade all Waterlilies, Aquatic Plants, and Fancy Fish produced by Independence Nurseries. A generation of experience gives us a background of real knowledge that is valuable to you and your customers.

Iris versicolor (Blue Flag). Like the yellow variety, only the flowers are blue and it is not such a rank grower.....	10	100		
Iris versicolor rosea . A variant form of Versicolor in a striking red color. Very rare.....	\$1 50	\$12 00		
Japanese Water-Taro (<i>Colocasia violacea</i>). An ornamental, broad-foliaged plant thriving in wet soils. Foliage shading to violet.....	10 00			
Japanese Water-Taro (<i>C. multiflora</i>). Large deep green foliage.....	5 00			
Japanese Water-Taro (<i>C. antiquorum illustris</i>). Green foliage marked with purple or black spots.....	5 00	30 00		
Lobelia cardinalis . Rich fiery cardinal flowers.....	2 50	20 00		
Lobelia syphilitica . Similar to the above, but the flowers are blue, streaked with white.....	2 00	18 00		
Marsh Marigold (<i>Caltha palustris</i>). Bright yellow flowers. In many places known as the "Cowslip"....	2 00	10 00		
Papyrus . The Egyptian water-plant, with stems from 5 to 8 feet high, surmounted with a tuft of thread-like leaves.....	2 00	15 00		
Spiral Palm . Similar in growth to the Umbrella Palm, but produces greenish white flowers. Plants from 3-in. pots.....	2 00	15 00		
Umbrella Palm (<i>Cyperus alternifolius</i>). Long, slender, drooping foliage at the top of a stem from 2 to 3 feet high. Grows readily when the roots are in moist soil or even when completely submerged. Plants from 3-in. pots.....	2 00	15 00		
Variegated Umbrella Palm . Foliage marked with center stripe of white.....	5 00			
Dwarf Umbrella Palm . Similar to the common variety, but with shorter stems.....	2 00	15 00		
Water-Canna (<i>Thalia dealbata</i>). Resembles a canna in growth, with purple flowers all summer.....	5 00			

Aquatic Plants for Shallow Water

Giant Arrowhead (<i>Sagittaria sagittifolia</i>). Distinctive leaves shaped as the name indicates, and standing 1 to 3 feet above water. Flowers freely in a series of white spikes.....	10	100		
Great Bulrush (<i>Scirpus lacustris</i>). A very interesting Rush 3 to 9 feet high.....	\$1 50	\$10 00		
Weeping Bulrush (<i>S. cernuus</i>). A dwarf variety growing from 3 to 12 inches high.....	1 50	10 00		
Cat-tail (<i>Typha latifolia</i>). One of the favorite native swamp plants.....	1 00	8 00		
Cat-tail (<i>T. angustifolia</i>). A tall, slender variety.....	1 00	8 00		

Floating Heart (<i>Nymphoides peltatum</i>). This plant has leaves like the nymphaeas and produces brilliant yellow flowers quite freely. It is hardy and will go well with almost any combination.....	10	100	\$1 00	\$6 00
Flowering Rush (<i>Butomus umbellatus</i>). A hardy plant with peculiar three-sided leaves in graceful clumps. Attractive pink flowers are borne aloft on round stems. Fine for naturalizing in a pond....	2 00	15 00		
Sweet Flag (<i>Acorus calamus</i>). The well-known Sweet Flag.....	1 00	8 00		
Variegated Sweet Flag (<i>A. calamus variegatus</i>). A beautiful variegated Sweet Flag.....	2 00	15 00		
Four-leaf Water Clover . A four-leaf Clover which sends up a luxurious growth of aerial leaves..	1 00	6 00		
Parrot Feather (<i>Myriophyllum proserpinacoides</i>). A very interesting little aquatic plant. Will grow in 12 to 15 inches of water or in moist soil equally as well. Has feather-like foliage which always attracts attention.....	1 00	8 00		
Pickereel Rush (<i>Pontederia cordata</i>). The blue flowers of this plant have made many friends, particularly as they are produced freely..	1 25	10 00		
Primrose Creeper (<i>Jussiza repens</i>). A rapid-growing, partially submerged vine with waxy green leaves and yellow flowers.....	1 00	8 00		
Purple Water-Hyacinth (<i>Eichbornia azurea</i>). Plants of creeping habit, the runners floating out upon the water. Flowers of rich purple with delicately fringed petals....	2 50	15 00		
Water-Fern (<i>Ceratopteris thalictroides</i>). A tender plant growing on top of the water. In planting, set the roots in loam, wrapped in moss, supporting them so that the crown is above the water.....	1 00	8 00		
Water-Arum (<i>Calla palustris</i>). A rather small plant with white flowers. In many respects it resembles the common house Calla, or Zantedeschia.....	1 50	10 00		
Water Plantain (<i>Alisma plantago-aquatica</i>). A plant with heart-shaped leaves standing about a foot above the water, and spikes of white flowers.....	1 00	8 00		
Water-Cress . Thrives in sun or shade. Edible; hardy.....	1 00	8 00		
Water-Poppy (<i>Hydrocleis nymphoides</i>). Flowers bright yellow similar to those of annual poppy, and are carried almost the whole season.....	1 50	8 00		
Wild Rice (<i>Zizania aquatica</i>). The importance of Wild Rice as a food for water-fowl cannot be over-emphasized. Easily grown in shallow water and is decidedly ornamental, as it shoots up rapidly and makes a growth of 5 to 10 feet.....			50	5 00

Buskirk's
Independence Nurseries
INDEPENDENCE, OHIO